

## ABSTRACT OF THE DISCLOSURE

A cell processing method and apparatus in an ATM switch can reduce or prevent cell loss and throughput deterioration of the switch caused by HOL blocking. The cell processing method can include storing unicast cells and multicast cells in a shared buffer memory and storing addresses of the respective cells in different address queues, assigning respective priorities to the cells stored in the shared buffer memory, reading out the cells from the shared buffer memory according to the assigned priorities, and sending the cells read out from the shared buffer memory to fan-out ports and determining the cell to be output when multiple cells reach a fan-out port. The processing apparatus can include a buffer that stores cells inputted to the ATM switch, multicast connection identifier (MCI) address queues that store buffer addresses of multicast cells and unicast address queues for storing buffer addresses of unicast cells.